

S.N. 10/683,187

Response dated November 16, 2007

Reply to Final Office Action of October 19, 2007

**REMARKS**

The applicant has carefully reviewed and considered the Office Action of 19 October 2007. In response the applicant wishes to accept the allowed coverage. Accordingly, the applicant amends claim 1 to incorporate the subject matter of substantively allowed claim 2. Claim 2 is then canceled without prejudice.

In summary, all the pending claims are now in condition for formal allowance. Accordingly, early issuance of a Notice of Allowance is earnestly solicited.

Finally, in accordance with Examiner Redding's request, enclosed herewith are copies of the two Japanese Patent References inadvertently omitted from applicant's January 28, 2004 Information Disclosure Statement.

Respectfully submitted,

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ENGLISH TRANSLATION AND DRAWINGS

FOR

JAPANESE PATENT DOCUMENT

56-136650

## Specifications

### 1. Name of invention.

Electric vacuum cleaner

### 2. Scope of the idea covered under this application

This type of vacuum cleaner features a fan motor located in the main unit. All of the dust is trapped by the filter in the easy to remove and replace dust chamber. The dust in the chamber can be compressed using the external compressor handle located between one end of the dust chamber and the main handle to operate the dust compressor.

### 3. Detailed explanation of this idea

This invention is an electric vacuum cleaner with a dust chamber that compacts the dust with a dust compressor as mentioned above to reduce the chance of unexpected operation of said dust compressor.

In order to collect the dust effectively, some current electric vacuum cleaners may include a dust compressor in the dust chamber. If the protruding handle is operated by mistake, or if the handle is bumped during use such as bumping into furniture, the dust compressor may be operated inadvertently.

Then when the dust compressor operates during normal cleaning, the dust in the chamber can backflow into the back of the dust compressor, resulting in the loss of function of the compressor. This has been a problem with current dust compressors.

This invention improves the positioning of the external handle of the dust compressor. By improving in this area, the above mentioned problem can be solved. A practical example shown in the following charts.

As shown in the chart, for this upright style vacuum cleaner there is a handle (1) attached to the main unit (2), and below that is the suction unit (3). There is a space at the bottom of the main unit (2) where the fan motor (4) is placed. The open front, boat shaped upper case (5) is mounted above this. (6) is a partition. (7) is the air inlet (8) is the main suction inlet on the back of the case (5) where the hose (9) coming from the suction unit (3) attaches. (10) is the exhaust outlet. (11) is the brush agitator which is mounted in the suction area (3) and is turned by belt (12) attached to the fan motor (4).

(13) is the dust chamber, which is easy to remove from the case (5), and replace, with its lower lip (14) fitting into a grove (15) in the partition (6), and pushed flush with hole (17) at the top of the case (5). (13) is then secured by the latch (16) which is mounted above the handle (18) to the top of the case.

The dust chamber (13) which empties on the bottom, has a fitting on the back which connects with the suction inlet (8) and backing (19)

connecting with the case suction inlet (20). (21) is a flap to prevent backflow. (22) is an easy to replace filter which fits in the bottom of the dust chamber (13). (23) is the dust compressor which is normally held above the case suction inlet (20) by the spring (24). The dust compressor (23) is operated by the compressor handle (25) located between the main handle (18) and the dust chamber (13).

Operation starts with the action of the agitator brush (11) mounted in the suction area (3) loosening the dust. The suction from the fan motor (4) then creates suction which pulls the dust through the hose (9), through the air outlet (8), the case suction inlet (20), into the dust chamber (13), and then to the filter (22). As the dust builds up in the dust chamber (13), when necessary, the dust may be compressed using the compressor handle (25) to compress the dust with the dust compressor (23) and increase the amount of dust that can be collected.

Because the compressor handle (25) is below the main handle (18), you are not likely to operate it by mistake. It is also not likely to be bumped during routine cleaning. In other words, the main handle (18) protects the compressor handle (25).

The operation of the upright electric vacuum cleaner has been explained in the above example, however, a similar dust compressor handle could easily be applied to any types of vacuum cleaners.

In this manner, by putting the external compressor handle for the dust chamber below the handle for the dust chamber for this invention, you can reduce the chance of malfunction of dust compressor because of dust compressor being operated during normal cleaning, and the dust in the chamber backflowing into the back of the dust compressor, with no additional parts and a simple structure.

#### 4. Simple explanation of the charts

Chart 1 shows a simple side view of a practical example of this invention, an upright type electric vacuum cleaner. Chart 2 is a side view showing the dust chamber removed. Chart 3 shows a cross section view.

2...Main Body	4...Fan Motor	
13...Dust Collection Container (Dust Chamber)		18... main
handle	22...Filter	25... dust compressor
	23...dust compressor	

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Chart 1

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Chart 2

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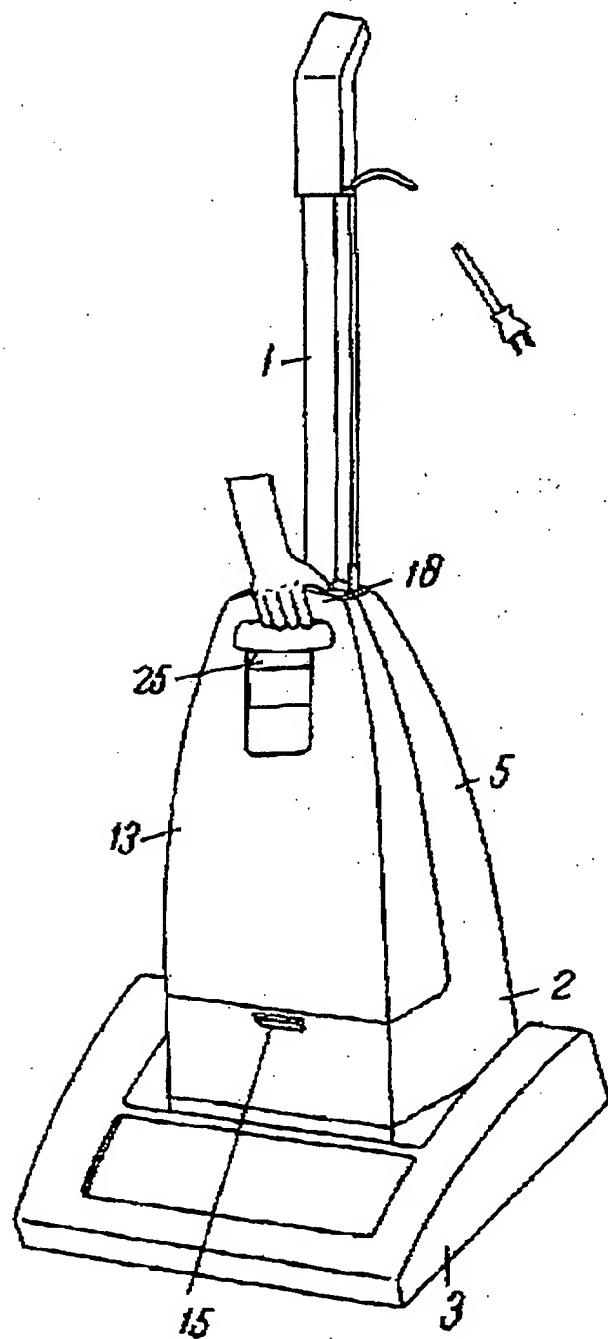
Chart 3

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2

第1図



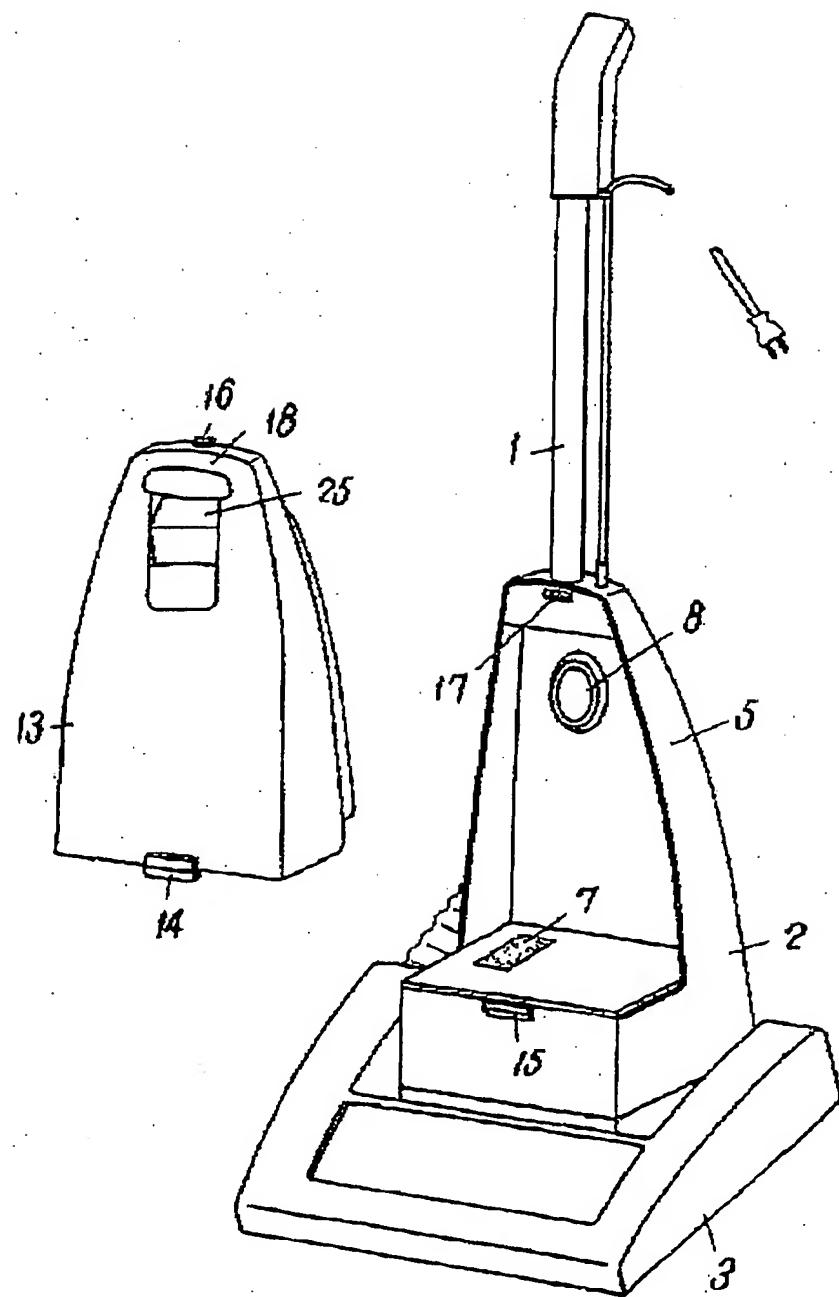
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136650 1/3

第 2 図



代理人の氏名

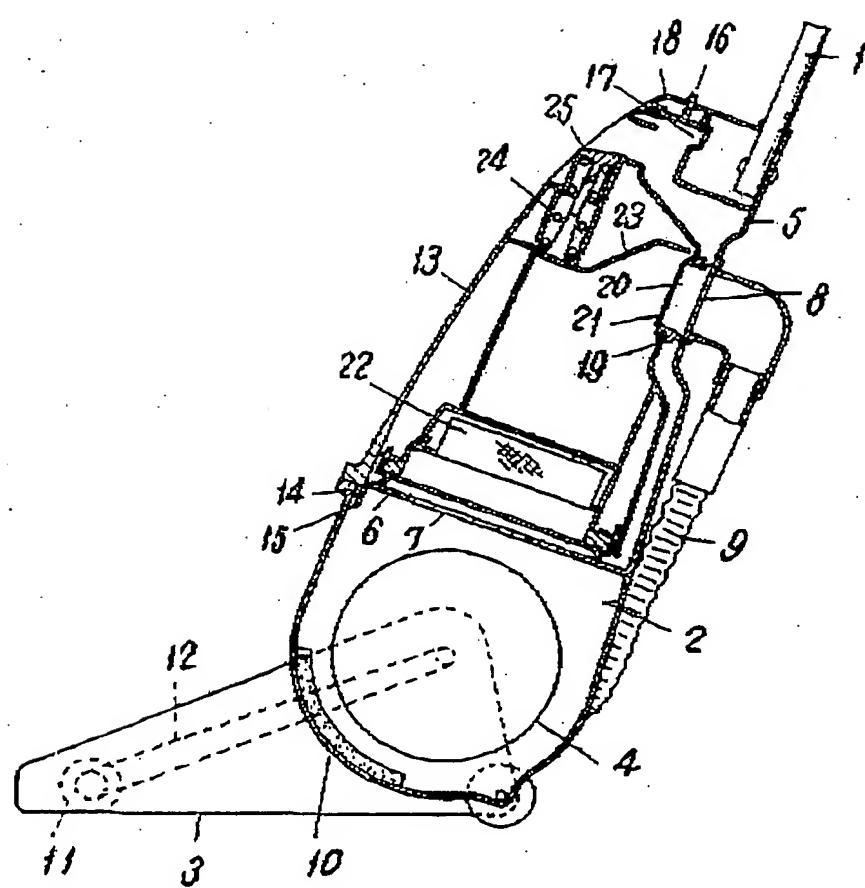
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第3図



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ENGLISH TRANSLATION AND DRAWINGS

FOR

JAPANESE PATENT DOCUMENT

56-136642

## Specifications

### 1. Name of invention.

Upright style electric vacuum cleaner

### 2. Scope of the idea covered under this application

The fan motor, the dust collection area and the filter are housed in the main unit. The suction unit which is connected to the main unit is movable. The main unit, which is the dust collecting part, and the suction unit are connected by a flexible stretch hose. In addition, the flexible stretch hose is easy to attach and detach. These are the key features of this upright type electric vacuum cleaner.

### 3. Detailed explanation of this idea

In addition to allowing quick removal of dust clogs, this invention, an upright style electric vacuum cleaner has many features.

A typical upright vacuum cleaner is typified by the main unit containing the fan motor and below it, the suction area. This configuration results in limited ability to clean in areas such as corners of rooms. In addition, there is often a hose between the main unit and the suction area, which hose is occasionally prone to dust clogs.

This invention resolves this problem. This is explained in the following practical example and with the attached charts.

As shown in the chart, for this upright style vacuum cleaner there is a handle (1) attached to the main unit (2), and below that is the suction unit (3). There is a space at the bottom of the main unit (2) where the fan motor (4) is placed. The open front, boat shaped upper case (5) is mounted above this. (6) is a partition. (7) is the air outlet (8) is the main suction inlet on the back of the case (5) where the flexible stretch hose (9) coming from the suction unit (3) attaches. (10) is the exhaust. (11) is the brush agitator which is mounted in the suction area (3) and is turned by belt (12) attached to the fan motor (4).

(13) is easy to remove from the case (5), and replace, with its lower lip (14) fitting into a groove (15) in the partition (6), and pushed flush with hole (17) at the top of the case (5). (13) is then secured by the latch (16) which is mounted above the handle(18) to the top of the case.

The dust chamber (13) which empties on the bottom, has a fitting on the back which connects with the suction inlet (8) and backing (19) connecting with the case suction inlet (20). (21) is a flap to prevent backflow. (22) is an easy to replace filter which fits in the bottom of the dust chamber (13).

As an explanation of the function, the process starts with the action of the agitator brush (11) mounted in the suction area (3) loosening the dust. The suction from the fan motor (4) then creates suction which pulls the dust through the flexible stretch hose (9), through the

air outlet (8), the case suction inlet (20), into the dust chamber (13), and then to the filter (22). As the dust builds up in the dust chamber (13), it may become necessary to remove the dust chamber (13) from the main unit (2), and empty the dust by removing the filter (22).

Further detail on the connection and path between the main unit (2), and suction unit (3) has the flexible stretch hose (9) attaching to the angled upper tube (23) which connects with the suction inlet (8), and to the lower suction inlet (24). In the suction unit (3), around the agitator brush (11) is the suction area (25), which flows into the suction tube (26), to which the lower suction inlet can be easily attached or removed (24).

The flexible stretch hose (9) which connects the main unit (2) and the suction unit (3) is designed to be used in a variety of ways. Even while the fan motor (4) is running, if there is a dust clog, you can remove the lower suction inlet (24) from the suction tube (26). In other words, you can free and straighten the flexible stretch hose (9) to allow the dust clog to be suctioned free. Also, by using the lower suction inlet (24), and attaching a small cleaning end (27) with an extension tube (28), you can clean in corners that would be difficult with the suction unit (3). By using the lower suction inlet (24) on the end of the flexible stretch hose (9) or with the extension tube (28), you can increase the utility of the unit.

In this way, with this invention, not only is it easy to resolve dust clogs, but with the use of the flexible stretch hose, it is easy to clean in difficult areas such as corners. Thus, excellent results can be obtained through the use of this invention.

4. Simple explanation of the charts

Chart 1 shows a simple side view of a practical example of this invention, an upright type electric vacuum cleaner. Chart 2 is a cross section side view. Chart 3 shows usage information.

2...Main Body      3...Suction Unit      4...Fan Motor  
9...Flexible Stretch hose 13...Dust Collection Container (Dust Chamber)  
26...Suction Unit Connection (Suction Tube) 22...Filter  
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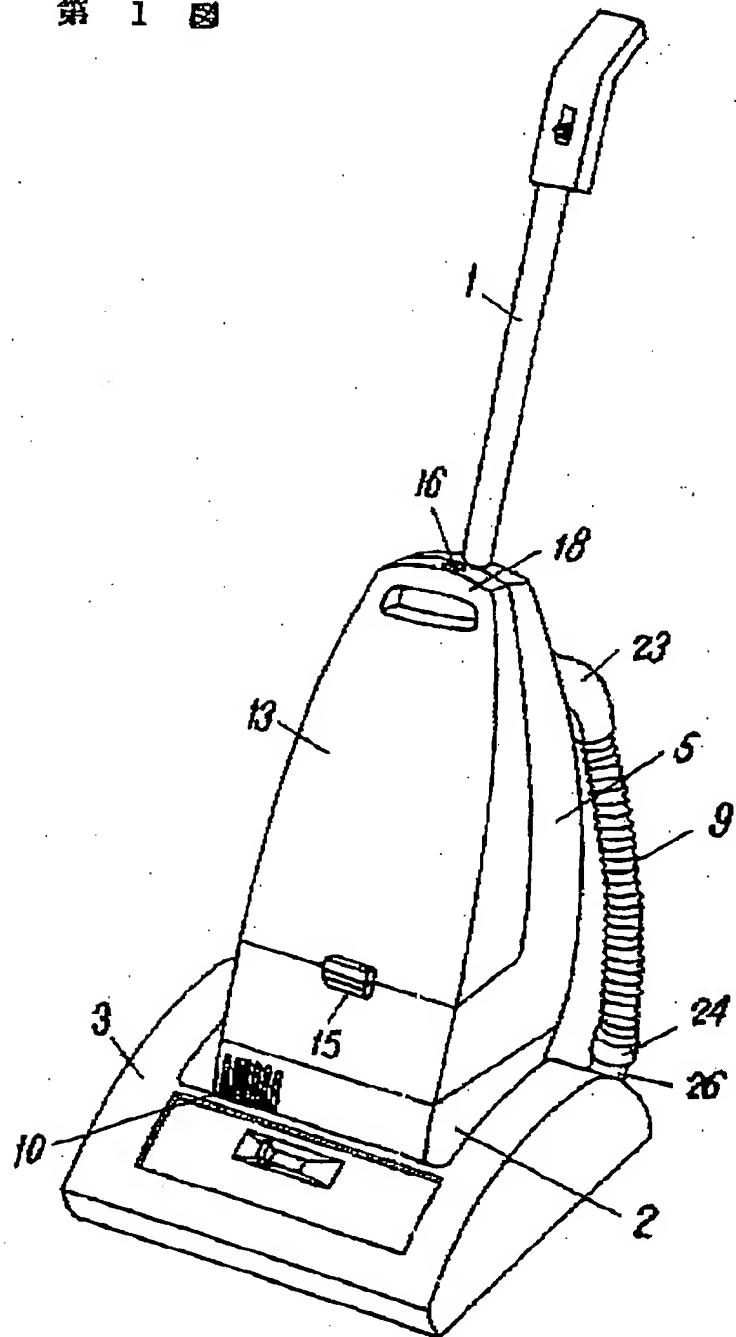
Chart 3

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第 1 図



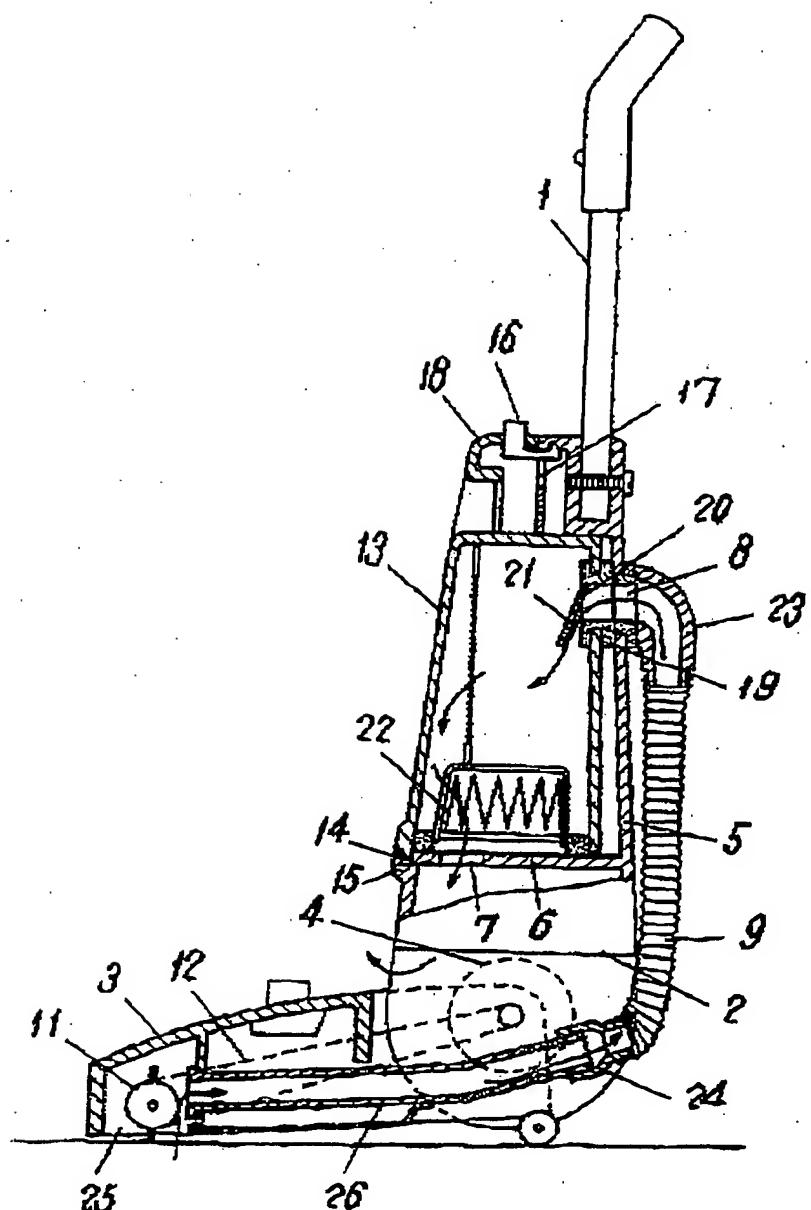
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第 2 図



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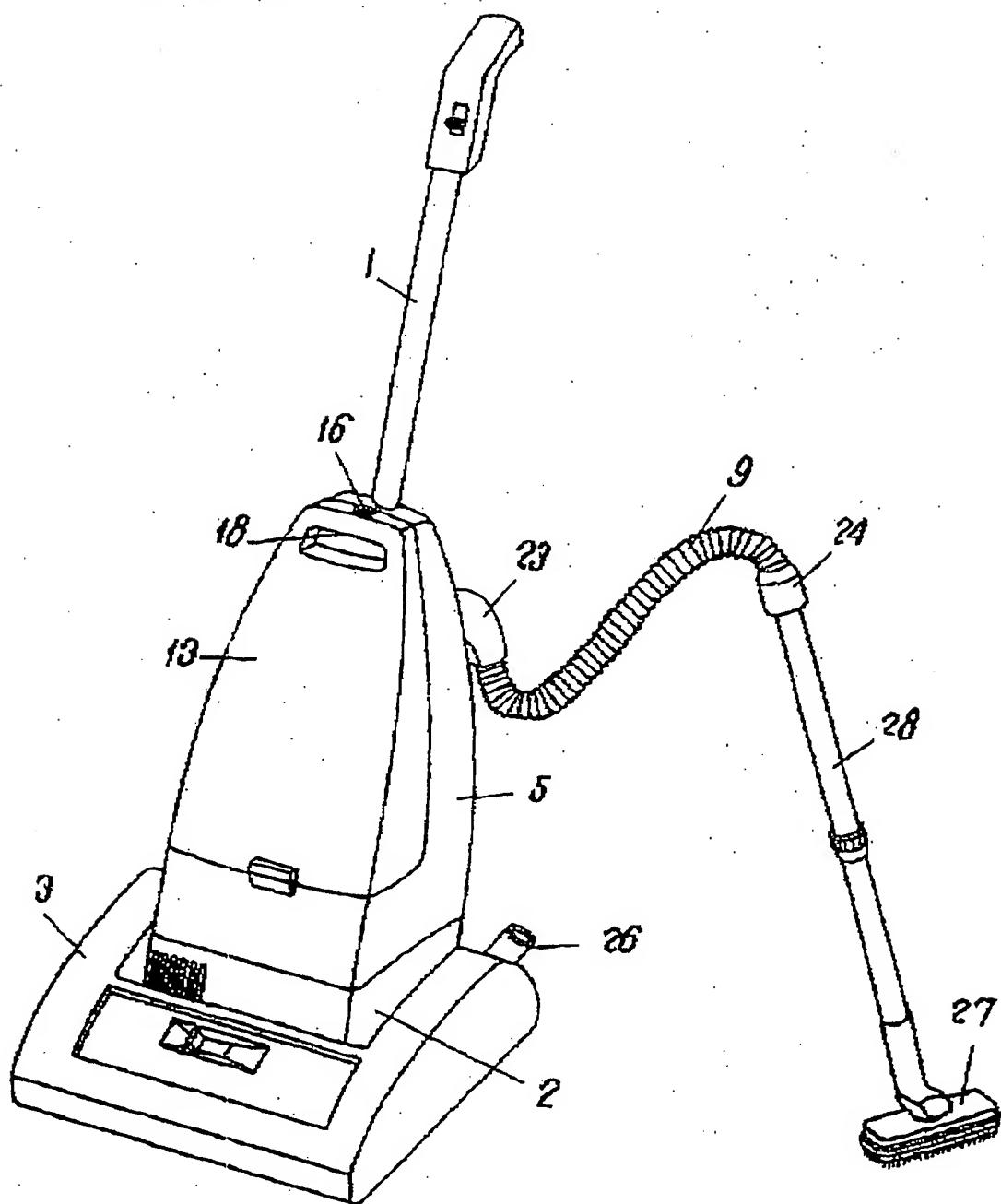
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136642 2/3

公開実用 昭和56—136642

第3図



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136642 3/3